



# LEMV

Long Endurance Multi-Intelligence Vehicle



## Summary

- 2,500 pound payload
- 21-day endurance at 20 knot continuous winds
- 7,500 feet above ground to 20,000 feet mean sea level (MSL) altitude
- 16 kw of power to payloads
- Multi-Intelligence capability
- Reduced cost and logistical footprint
- 80 knots dash speed and 20 knots average station keep speed

**A state-of-the-art hybrid airship that will provide persistent time-on station for additional Intelligence, Surveillance and Reconnaissance (ISR) to the theatre commander.**

The LEMV is an unmanned, long-endurance platform intended to enable continuous over-the-horizon communications, wide area surveillance and protection to support uninterrupted theatre operations in urban and mountainous terrain. The LEMV will offer payload flexibility and an extended persistent ISR capability that currently does not exist in theatre today. LEMV will also provide a possible solution to communications beyond the line-of-sight or communication degradation, signals intelligence collection and almost any other type of payload configuration that meets the power, weight and size requirements. LEMV's interoperability with existing tasking, processing exploitation and dissemination architectures has the potential to improve information-poor situations, mitigating Warfighter gaps and existing shortfalls through multi-intelligence sensor integration. The LEMV's flexible, open systems architecture will enable the Warfighter to employ the most technologically advanced payloads in the near term as they become available.

The hybrid airship's design requirements include: the capability to operate at up to 20,000 feet above mean sea level; a 21-day endurance in 20 knot continuous winds (take-off to touchdown); and provide 16 kilowatts of continuous electrical power for payloads. Many benefits are derived from the hybrid air vehicle approach, like reduced airspace congestion, less runway requirements, and less infrastructure for fuel and maintenance operations. LEMV can be forward located to support extended geostationary operations from austere locations and capable of beyond-line-of-sight command and control.

The LEMV is multi-mission capable to include: persistence surveillance, force protection, border patrol, counter-drug operations, support national operations, disaster, humanitarian relief, and over-watch/support troops. LEMV is a key element of the Army ISR constellation architecture. Its persistence fills an operational gap – between high-fidelity coverage found in air-breathing systems with shorter duration times and ever-present coverage from national assets that do not distribute intelligence to the ground commander. Whether ISR or communications, LEMV provides sustained organic support to worldwide combatant forces. LEMV supports synchronized operations in-depth across the operational environment, integrates into the tactical network architecture, and provides straightforward and rapid information discovery by the commander in the Tactical Operations Center (TOC) or to the Soldiers located on the tactical edge.

LEMV's anticipated persistent ISR capabilities may bring the tools to the fight that are necessary to support concepts otherwise not feasible with existing ISR assets. These force multipliers may augment existing ISR/Reconnaissance, Surveillance, and Target Acquisition (RSTA) missions. The LEMV will support the Warfighter by providing unprecedented persistent over-watch of the operational environment and critical situational awareness necessary to attack the current threat environment. LEMV will support these and other Warfighter requirements by employing a suite of sensors that will support decision makers by continually providing a timely and accurate picture of the battlespace, over-watch of current operations, and ability to collect vital forensic data necessary to disrupt insurgent support capabilities.

The current operational environment requires a system that can provide persistent, operational surveillance of the battle space. LEMV will provide that ability with 21-day persistent surveillance and over-watch of the operations environment and the employment of an impressive array of Full Motion Video (FMV), Electro Optical (EO), Infrared (IR), Ground Moving Target Indicator (GMTI), and Signals Intelligence (SIGINT) sensors. The addition of the LEMV to the ISR constellation will enable the commander to quickly achieve decision superiority, while executing complex operations across the full range of military operations within the Joint Operating Environment.



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